

THAT WHICH IS CLAIMED:

1. A method of wirelessly transmitting periodic readings of a remote utility meter to a host computer, comprising:

(a) storing a plurality of meter reading values in a buffer;

5 (b) processing said plurality of meter reading value in said buffer to determine the relative difference between a first meter reading value and a second meter reading value wherein said second meter reading value is the next sequentially stored meter reading value in said buffer relative to said first meter reading value;

(c) determining whether said relative difference is less than a predetermined value;

(d) determining the status of a compression flag,

(e) if said relative difference is less than said predetermined value and said compression flag is not set, then setting said compression flag, transmitting a compression indication, and transmitting said relative difference;

(f) if said relative difference is less than said predetermined value and said compression flag is set, then transmitting said relative difference;

(g) if said relative difference is greater than said predetermined value, and said compression flag is not set, then transmitting said first meter reading value; and

(h) if said relative difference is greater than said predetermined value, and said compression flag is set, then resetting said compression flag, transmitting a decompression indication and transmitting said first meter reading value.

2. The method of Claim 1, wherein said relative difference is represented using one byte, said compression indication is represented using one byte, said decompression indication is represented using one byte, and said meter reading data is represented using two bytes.

3. The method of Claim 1 wherein steps (b) – (h) are repeated for said plurality of meter reading values contained in said buffer.

4. The method of Claim 1 wherein step (e) includes transmitting a compression indication selected from a group comprising an unlimited duration compression indication and an limited duration compression indication.

5. The method of Claim 4 wherein the limited duration compression indication is selected when a third meter reading value in said buffer is examined and a second relative difference between said third meter reading value and said second meter reading value is determined, and said second relative difference is less than said predetermined amount.

6. The method of Claim 1 wherein step (c) further determines whether said relative difference is less than a second predetermined value, a third predetermined value, and a forth predetermined value, and transmitting a corresponding difference magnitude indication with said compression indication.

7. A method of receiving meter reading data by a host computer transmitted from a meter, comprising:

(a) initializing values in a receiving buffer;

(b) receiving a plurality of data bytes into said buffer;

(c) reading a first data byte stored in said buffer;

(d) determining whether said first data byte includes a compression indication or

5    decompression indication;

(e) if said first data byte does not include said compression indication and does not include said decompression indication, then reading a second byte stored in said buffer and determining a first meter reading value using said first data byte and said second data byte;

(f) if said first data word includes said compression indication, then reading said second data byte stored in said buffer and determining a first meter reading value by using said second data byte and to a previously stored meter reading value; and

(g) if said first data includes said decompression indication, then reading said second data byte and a third data byte stored in said buffer and determining a first meter reading value by using said second data byte and said third data byte;

15    (h) equating a previously stored meter reading value to said first meter reading value;

8.    The system of Claim 7 wherein steps (c) – (h) are repeated.